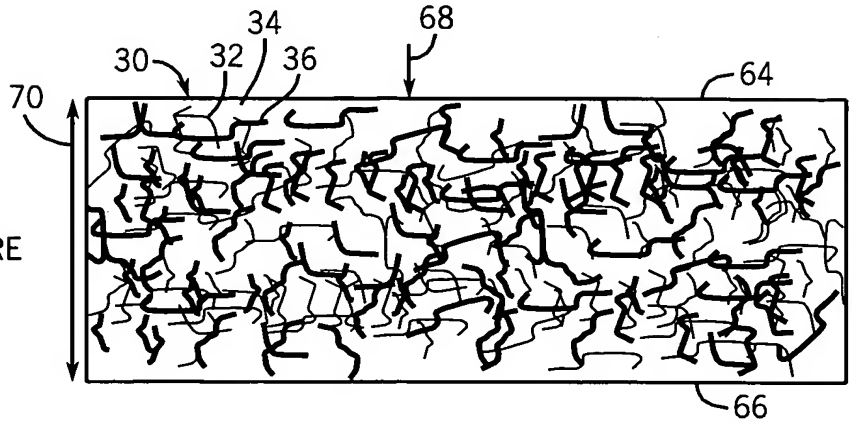


FIG. 1
MACROSTRUCTURE
A

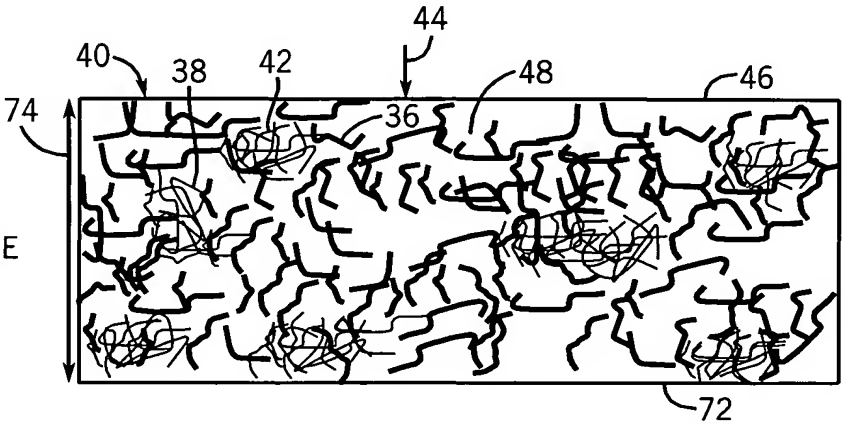


FIG. 2
MACROSTRUCTURE
B

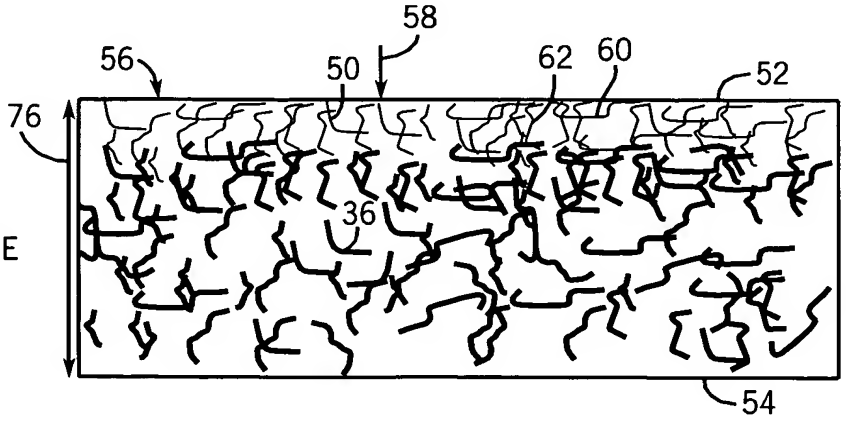


FIG. 3
MACROSTRUCTURE
C

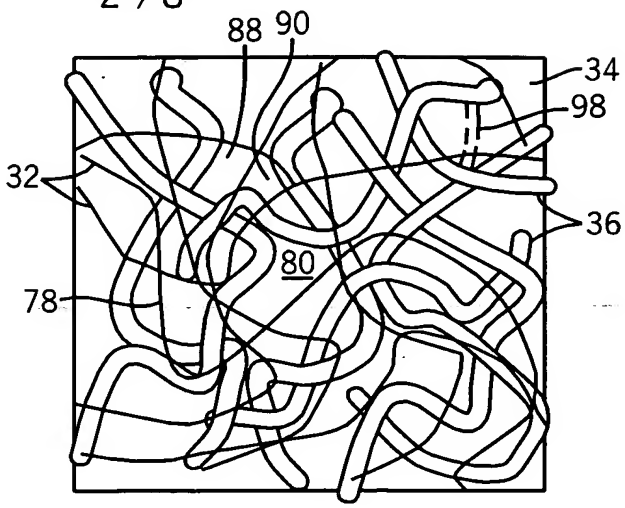


FIG. 4
MICROSTRUCTURE 1

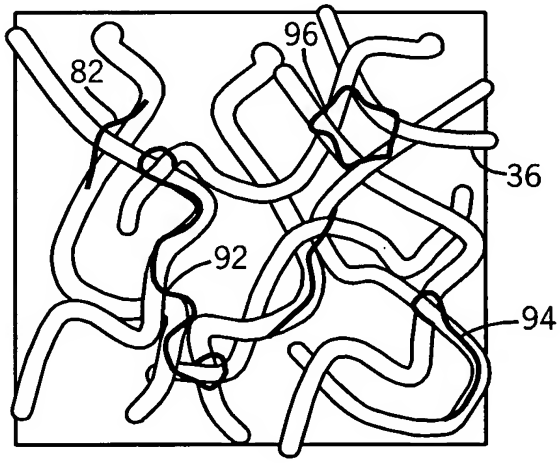


FIG. 5
MICROSTRUCTURE 2

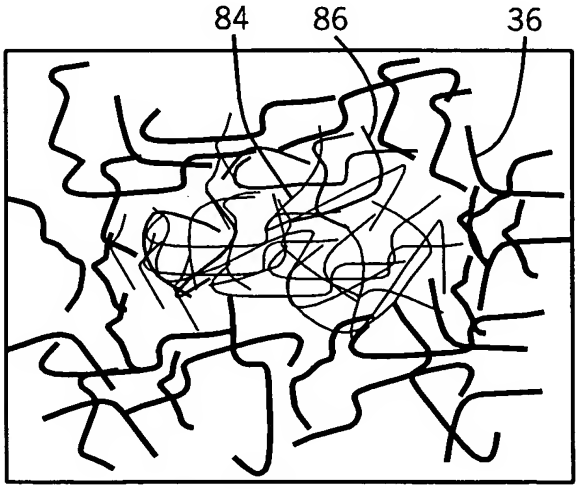


FIG. 6
MICROSTRUCTURE 3

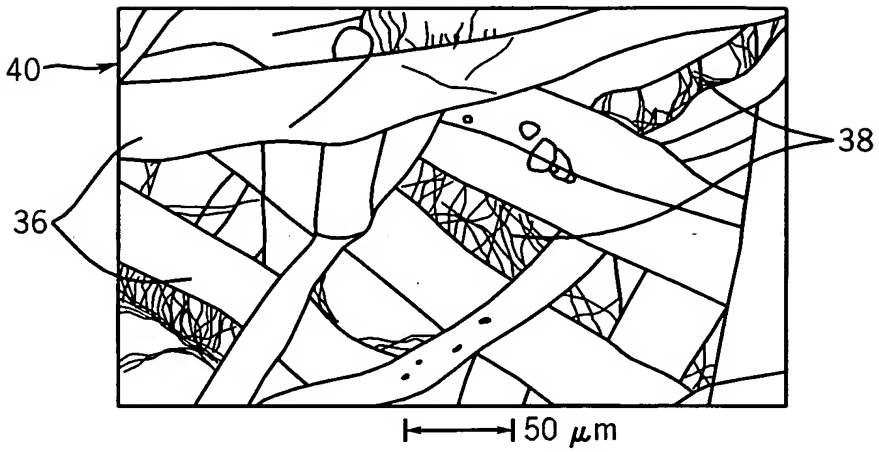


FIG. 7

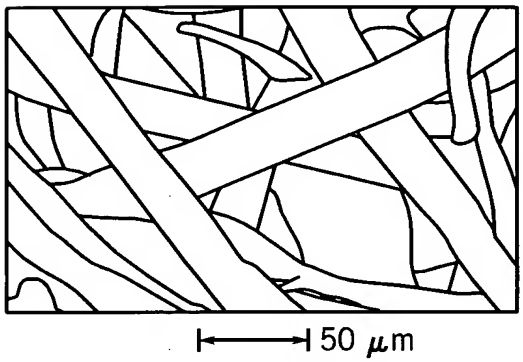


FIG. 9
TEST MEDIA A

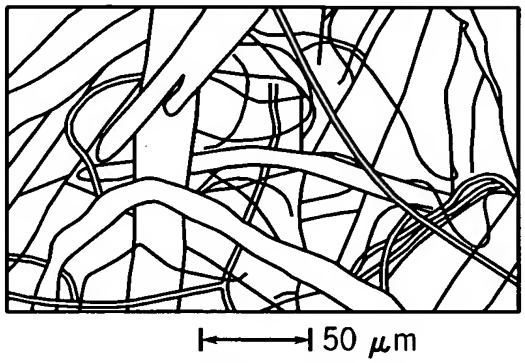


FIG. 10
TEST MEDIA C

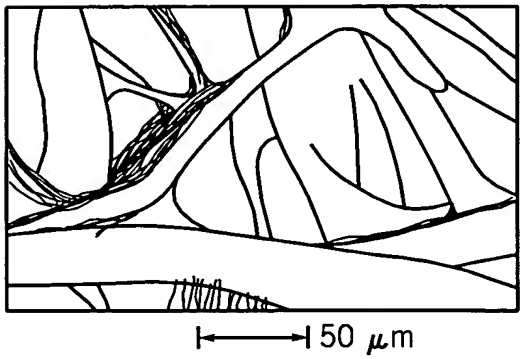


FIG. 11
TEST MEDIA D

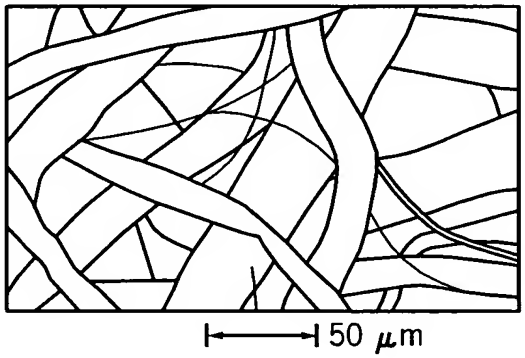


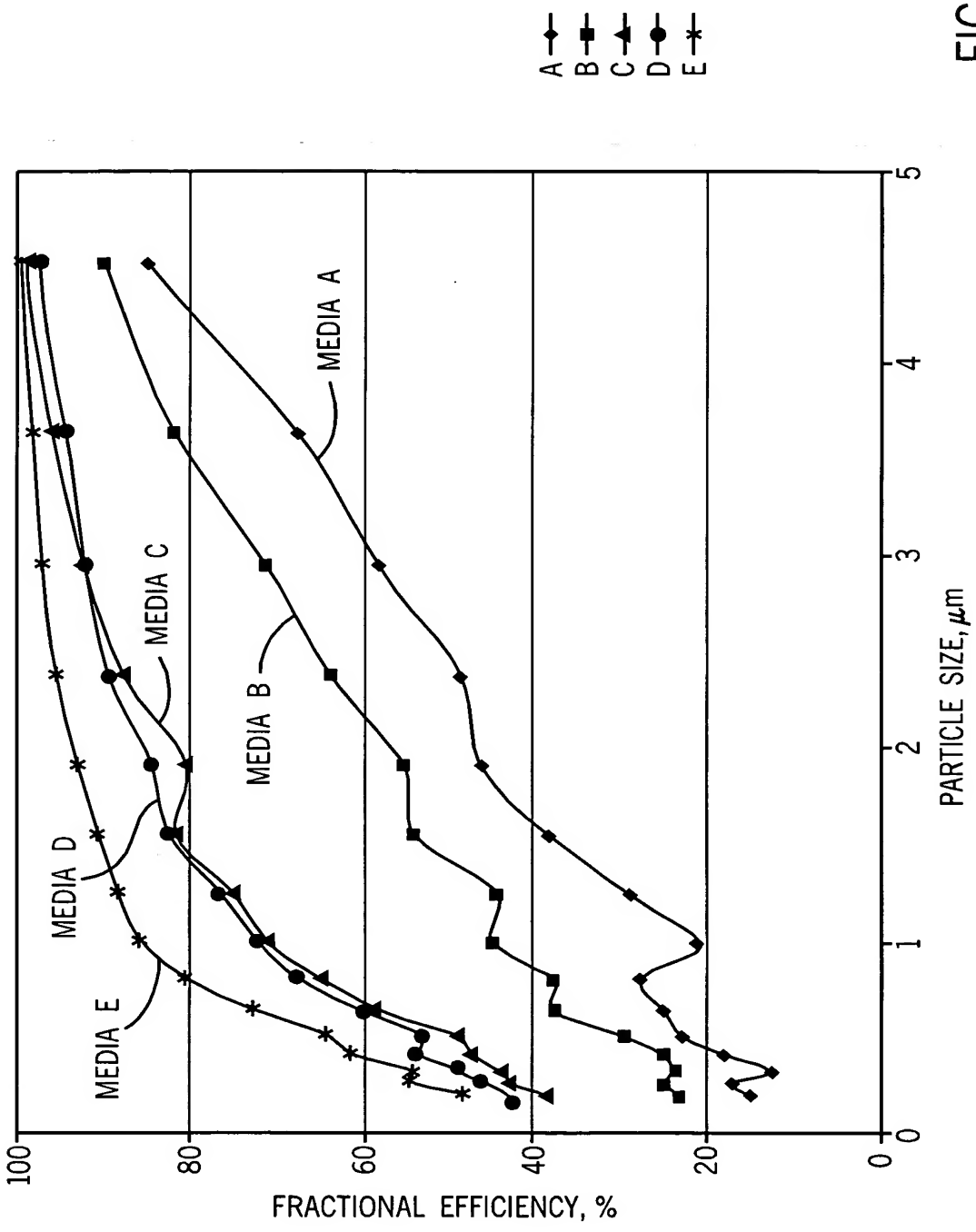
FIG. 12
TEST MEDIA E

TABLE 1. CHARACTERISTICS OF SAMPLE FILTER MEDIA

MEDIA			A	B	C	D	E	G	H	I	J	K	COMMERCIAL FUEL FILTER-GRADE CELLULOSE CF
MEDIA RECIPE		UNITS											
CRESTBROOK BLEACHED NORTHERN PINE PULP	AMOUNT	g	4	4	3.5	4	4	5.5	5.5	5.5	5.5	6	
BUCKEYE CELLULOSE HPZ	AMOUNT	g	3	2.75	2.5	3	2.75	6	6	5.5	5.5	6	
OTHER			NONE	POLYESTER MELTBLOWN	POLY. MELTB.	ACRYLIC NANOFIBER	706 GLASS	706 GLASS	FIBRILLATED KEVLAR	FIBR. KEV.	POLY. MELTB.	NANOFIBER POLYARAMID	
	AMOUNT	g	0.00	0.25	1.00	0.03	0.25	0.50	0.50	1.00	0.80	0.06	
	DIAMETER	nm	NA	1400-3300	1400-3300	100-500	800	800	500-4000	500-4000	1400-3300	200-600	NA
MACROSTRUCTURE			NA	B	B	B	B	A	B	B	B	B	NA
MICROSTRUCTURE			NA	1	1	1	1	1	1	1	1	2	NA
PHYSICAL PROPERTIES													
	BASIS WEIGHT	g/m2	83.71	83.10	79.11	81.48	75.77	127.32	125.66	126.77	130.64	132.86	138.00
	CALIPER	mm	0.36	0.32	0.33	0.33	0.36	0.64	0.69	0.64	0.64	0.61	0.55
	FRAZIER PERMEABILITY	fpm at 0.5 in. H_2O	40.3	27.4	15.2	10.0	12.4	14.5	29.0	19.0	23.0	25.0	17.0
	MEAN FLOW PORE SIZE	μm	19.5	17.7	12.3	9.5	10.5	12.3	18.5	13.4	16.1	16.7	12.40
FRACTIONAL EFFICIENCY	PARTICLE SIZE (μm)												
	0.22	%	14.996	23.496	38.637	43.337	48.708						
	0.28	%	17.249	24.707	43.127	45.867	54.790						
	0.34	%	12.496	23.819	43.927	49.016	54.514						
	0.43	%	18.195	25.127	47.540	53.471	61.539						
	0.52	%	23.007	29.511	48.984	53.328	64.315						
	0.65	%	25.027	37.523	58.792	60.300	72.688						
	0.81	%	27.788	37.880	65.118	67.718	80.582						
	1.00	%	21.209	45.067	71.291	72.142	86.051						
	1.25	%	29.001	44.470	75.180	76.745	88.305						
	1.55	%	38.515	54.229	81.989	82.660	90.714						
	1.91	%	46.390	55.384	80.603	84.540	93.030						
	2.38	%	48.808	63.993	87.978	89.499	95.582						
	2.95	%	58.414	71.177	92.577	92.467	97.164						
	3.64	%	67.462	81.837	96.139	94.443	98.082						
	4.52	%	84.792	89.938	99.047	97.490	99.350						

FIG. 8

FIG. 13


A
B
C
D
E
MEDIA A
MEDIA B
MEDIA C
MEDIA D
MEDIA E
100
80
60
40
20
0
FRACTIONAL EFFICIENCY, %
0
1
2
3
4
5
PARTICLE SIZE, μm

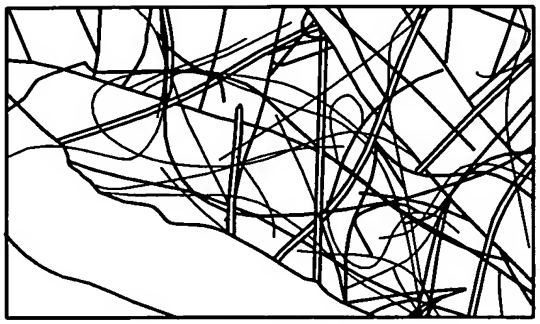


FIG. 14
TEST MEDIA G

FIG. 15
TEST MEDIA I

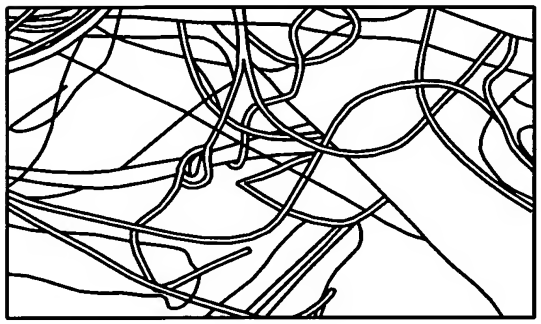
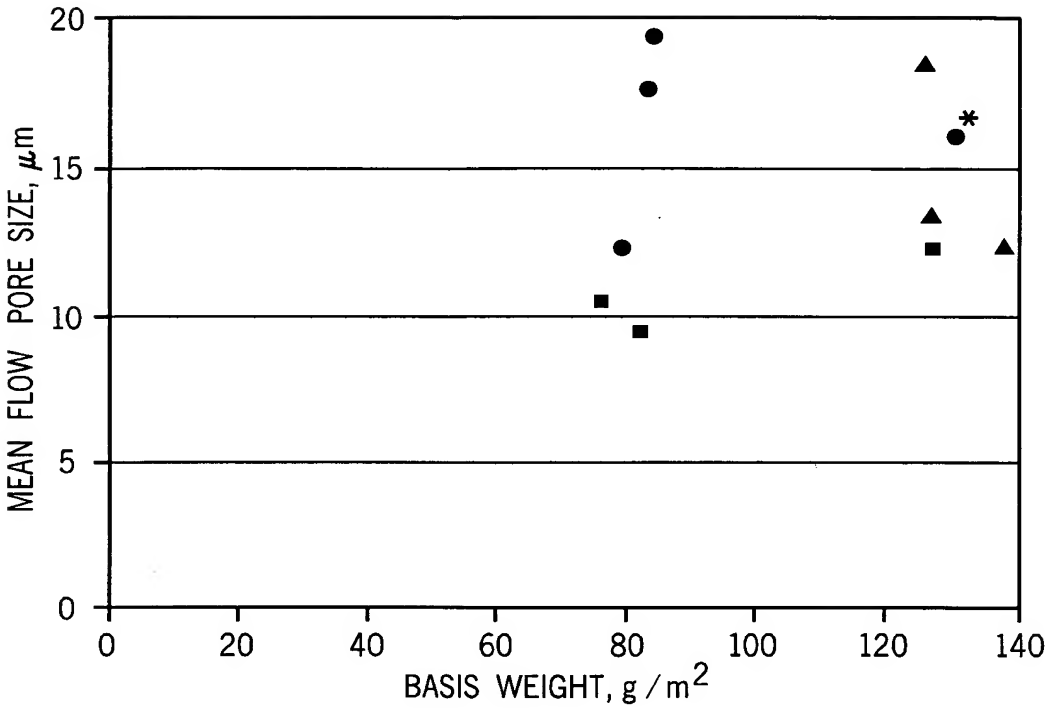


FIG. 16
TEST MEDIA J

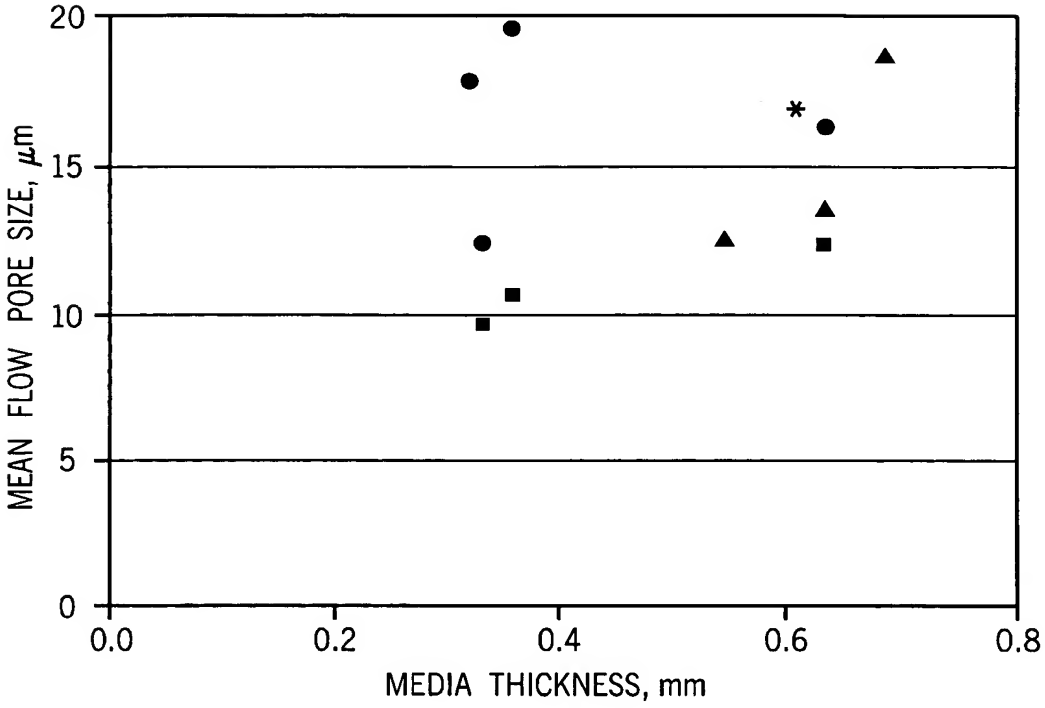
FIG. 17
TEST MEDIA K

FIG. 20
COMMERCIAL FUEL
GRADE CELLULOSE MEDIA CF
PRIOR ART



● NO SECONDARY NANO- OR MICROFIBERS
▲ MIXED NANO- AND MICROFIBER AS SECONDARY FIBER COMPONENT, MICROSTRUCTURE 1
■ NANOFIBERS AS SECONDARY FIBER COMPONENT, MICROSTRUCTURE 1
* NANOFIBERS AS SECONDARY FIBER COMPONENT, MICROSTRUCTURE 2

FIG. 18



- ● NO SECONDARY NANO- OR MICROFIBERS
- ▲ MIXED NANO- AND MICROFIBER AS SECONDARY FIBER COMPONENT, MICROSTRUCTURE 1
- ■ NANOFIBERS AS SECONDARY FIBER COMPONENT, MICROSTRUCTURE 1
- * NANOFIBERS AS SECONDARY FIBER COMPONENT, MICROSTRUCTURE 2

FIG. 19